

**REMARKS**

Claims 1-32 are pending in the application.

Claims 1-11, 14, 15, 17-22 and 24-30 have been allowed.

Claims 12, 13, 16, 23 and 31 have been objected to.

Claim 32 has been rejected.

Claims 12, 13, 16, 23 and 31 have been amended.

Reconsideration of the Claims is respectfully requested.

**I. OBJECTION TO THE ABSTRACT**

The Office Action objected to the Abstract of the present application because the Abstract exceeded the maximum word limit of 150 words. Applicant has amended the Abstract to shorten the Abstract to less than 150 words, as requested by the Examiner. Accordingly, Applicant respectfully requests the Examiner to withdraw the objection to the Abstract.

**II. OBJECTION TO THE SPECIFICATION**

The Office Action objected to the specification of the present application because the referenced application on page 4 did not include a serial number or filing date. Applicant has amended page 4 of the specification to include the serial number, filing date and corresponding issued patent number, as requested by the Examiner. Accordingly, Applicant respectfully requests the Examiner to withdraw the objection to the specification.

### **III. OBJECTED CLAIMS**

The Applicant thanks the Examiner for the indication that Claims 12, 13, 16, 23 and 31 would be allowable if various informalities and typographical errors were corrected. Applicant has amended Claims 12, 13, 16, 23 and 31 to correct the various informalities and typographical errors noted by the Examiner. Claims 12, 13, 16, 23 and 31 were not amended to narrow the claims or otherwise change the scope of the claims in any way. Accordingly, Applicant respectfully requests the Examiner to withdraw the objections to the claims.

### **IV. REJECTION UNDER OBVIOUSNESS-TYPE DOUBLE PATENTING**

Claim 32 was rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 and 4 of U.S. Patent No. 6,744,508 to Jungerman et al. The rejection is respectfully traversed.

The Office Action asserts that the conflicting claims are not patentably distinct from each other because the apparatus of Claim 32 of the present application is the same as the apparatus of Claims 1 and 4 of U.S. Patent No. 6,744,508 (hereinafter "the Patent"), except that the Patent does not required the use of a frequency doubler to create the probe pulse beam from a fundamental source. The Office Action further asserts that the use of such a frequency doubler is a common technique in the optical nonlinear arts, and therefore, would have been obvious in the apparatus of Claims 1 and 4 of the Patent. *See* Office Action, page 3.

However, Applicant notes that Claim 1, from which Claim 4 depends, of the Patent specifically recites "a sum frequency generator for generating sum frequency of the rotated input signal." As also claimed in Claim 1, the rotated input signal includes "a first portion of the input signal [rotated] to a first rotated direction" and "a second portion of the input signal

[rotated] to a second rotated direction orthogonal to the first rotated direction.” Thus, Claims 1 and 4 of the Patent disclose a sum frequency generator that generates a sum frequency of the two portions of the input signal, each being polarized orthogonally with respect to one another.

By contrast, Claim 32 of the present application specifically recites “a sum frequency generator ... to combine each of the two polarized input signal components ... separately in first and second stages with said frequency doubled unsplit second harmonic probe pulse signal.” Applicant respectfully submits that Claims 1 and 4 (and other claims) of the Patent do not teach or suggest two separate stages, nor do they teach or suggest combining one of the polarized input signals with the frequency doubled signal in one stage and the other polarized input signal with the frequency doubled signal in the other stage, as is claimed in Claim 32 of the present application.

Therefore, the Office Action has failed to present a *prima facie* case of obviousness of Claim 32 over the Patent. Accordingly, the Applicant respectfully requests the Examiner withdraw the obviousness-type double patenting rejection of Claim 32.

## **V. CONCLUSION**

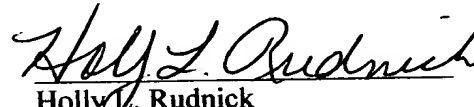
As a result of the foregoing, the Applicant asserts that the remaining Claims in the Application are in condition for allowance, and respectfully requests an early allowance of such Claims.

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *hrudnick@texaspatents.com*.

Respectfully submitted,

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